



SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1966

A NON-PROFIT AMATEUR TECHNICAL ORGANIZATION DEDICATED
TO THE ADVANCEMENT OF COMMUNICATIONS ABOVE 1000 MC.

W6IFE Newsletter

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The **4 May 2000** meeting of the SBMS will have several previous microwave rovers' talk about their planning and experiences in roving during microwave contests. The SBMS meets at the American Legion Hall 1024 Main Street (south of the 91 freeway) in Corona, CA at 1900 hours local time on the first Thursday of each month. Check out the SBMS web site at <http://www.ham-radio.com/sbms/>.

Check your mail label for dues due date that follows your call sign. Dues go to the treasurer.

Last meeting Jeff, KN6VR lead a discussion on how to go about calculating receiver system performance. He had a number of pages for hand out that indicated the use of an Excel spread sheet to plug-in numbers and estimate performance. Jeff indicated that some more work needs to be done in straightening out the use of the spreadsheet and the equations in Excel. Thanks for the good talk Jeff. Elected to office were President: Doug, K6JEY; VP Dick, WB6DNX; Recording Secretary, Mel, WA6JBD; Corresponding Secretary, Kurt K6RRA; Treasurer, Dick, K6HIJ. Thanks to past president Jeff, KN6VR for his efforts during his tour of duty and to the rest of the team who was re-elected. 14 present.

President's Message

I was a little surprised and delighted to be elected as president of SBMS. I hope that I will be able to carry on the great work that has been done in the past. Specifically I would like to thank last year's officers on behalf of the entire club for their work this last year and particularly Jeff KN6VR, for a great job.

I thought I'd give a little background on myself, and hope that others might do the same. I have been interested in microwaves since I started ham radio in 1957. I was forced by my Elmer to get a General ticket, even though I was deep into ARC 5's, UPX's, and dreamed about dishes. I did manage to get on 1296 mc with a UPX-6 and a 5 gal lard can, but found only noise and the odd radar signal. With fits and starts over the next 40 years, I finally got a wide band 10 GHz rig and got serious about microwaves 4 years ago. Since then I have made a 10 GHz narrow band rig with a 2' dish and a 100 mw 24 GHz rig with a 1' dish. I have revisited 1296 and now have a better rig than I dreamed of as a kid. (100 watts, 6' loop yagi) I am also active on the low bands. I am on 432 MHz EME with 4x25 el K1FO antennas and 500 watts. (Qrp by EME standards) and have 12 stations worked.

Professionally, I am working on an EDD in Educational Technology and have just started as an adjunct prof. at University of Phoenix. Other hobbies are astronomy, 5-string banjo and classical and old time guitar. I am also the Technical Advisor for the ARRL in metrology.

I am sure we will have a great year and look forward to great scores in the contest, the friendships we share through the club and interesting meetings. Doug, K6JEY

Scheduling-

1 June (Subject to May meeting approval) There is planning in works to visit Mike Collis, WA6SVT operations in the town of Ontario. Mike has an educational TV station and has ATV equipment on 1.2 GHz and 2.4 GHz. Mikes operation is located west from the I-15 and I-10 interchange off the I-10 on Haven Ave off ramp and on to 250 Turner Ave. Plenty of parking is available. Stay tuned.

10-12 June VHF QSO Party

6 July- Preliminary planning is for a talk on how to operate from a mountaintop such as Heaps Pk.

29 July - A joint SBMS, San Diego Microwave Group rig field measurement party.

3 August- Preliminary plan is for finalizing of 10 GHz contest positioning.

Wants and Gots for Sale

Want WR-42 90-degree twist and WR-42 waveguide switch Dave, WA6CGR 909-318-5154.

Want to purchase a spectrum analyzer, Dick Kolbly, K6HIJ 760-253-2477.

Activity reported at the April 2000 SBMS meeting: Dick, WB6DNX checked to see that his 10 GHz rig is still working; Chuck, WA6EXV had been working on a Qualcomm 10 GHz rig with dual frequencies for Phase 3D and the 1 w power amp and had it to the meeting to show and tell, now he is building a narrowband 24 GHz rig to take to Colorado for the 10 GHz contest; Bill, WA6QYR has been working on some amplifiers for a noise figure measuring test set up and has taken a part-time job with the local Boy Scout District; Ed, W6OYJ reported working with John, WB6BKR on some noise problems in John's 24 GHz rig and the San Diego Microwave Group web page has been updated with mods to Qualcomm gear and other materials that was presented at the 1999 Microwave Update; Ken, WB6DTA is gathering parts for a 5 GHz rig, built a DEM amplifier using ERA-2 and 5's with lower than desired gain; Bob, W6SYA did some 2.4 GHz transverter work; Doug, K6JEY visited Japan and some hams there and got his 24 GHz dish mounted; Dave, WA6CGR packaged a DRO type 2160 MHz synthesized LO and plans to have 50 MHz through 24 GHz at the June VHF party on Heaps PK and presented a tech talk to a local ham club on frequency deviation measurement; Kurt, K6RRA drilled more holes and stuffed boards; Dick, K6HIJ worked on some filter designs; Larry, K6HLH now has 2.3, 3.4, 10 and 24 GHz

rigs on the air on a rotatable post at his house; Jim, K6ML now has a tower; Jeff, KN6VR worked on the noise figure of a preamp.

Some numbers to play with:

Temperature at 440 MHz 2 GHz

Vertical 15 deg Kelvin 5 deg Kelvin

45 deg elevation 40 deg Kelvin

0 deg elevation 290 deg Kelvin 290 deg Kelvin

Add to the above: spillover, feed line loss. There is a goal to have a system noise figure that matches what is being seen by antennas and no lower, unless you just want to spend money.

Note Chuck, WA6EXV used the RF Design info webpage listed in the March 2000 Cheesebits (www.rfglobalnet.com) to download a version of APPCAD and ended up having to reformat his hard drive. Something else got downloaded along with the program and he spent a week fixing problems on his computer.

The March 2000 issue of Microwaves and RF magazine indicates that the National Institute of Standards and Technology in Boulder, CO has a new atomic clock, which will, neither gain nor lose a second in approximately 20 million years. The new cesium atomic clock, NIST F-1, is about 3 times more accurate than the clock it replaces, NIST-7. NIST F-1 uses cooler and slower cesium atoms, which allow more microwave, interrogate time than the heated cesium in the NIST-7 models.

Microwave Update 2000 will be hosted by the Mt. Airy VHF Radio Club (Pack Rats) at the Holiday Inn Select, Bucks County, 4700 Street Road, Trevoze, PA 19053 on 28-30 September 2000. 215-364-2000, 800-HOLIDAY. For more info contact John Sortor, KB3XG at johnkb3xg@aol.com or <http://www.ij.net/packrats/mud.html>.

73 Bill

San Bernardino Microwave Society is a technical amateur radio club affiliated with the ARRL having a membership of over 90 amateurs from Hawaii and Alaska to the east coast. Dues are \$15 per year, which includes a badge and monthly newsletter. Your mail label indicates your call followed by when your dues are due. Dues can be sent to the treasurer Your mail label indicates your call followed by when it is time to renew your dues. Dues can be sent to the treasurer as listed under the banner on the front page. If you have material you would like in the newsletter please send it to Bill WA6QYR at 247 Rebel Road Ridgecrest, CA 93555, bburns@ridgecrest.ca.us, or phone 760-375-8566. The newsletter is generated about the 15th of the month and put into the mail at least the week prior to the meeting. This is your newsletter. SBMS Newsletter material can be copied as long as SBMS is identified as source.

San Bernardino Microwave Society newsletter

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USA

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